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10. The method of Claim 9, wherein the EG phenotype of said cells is further confirmed by transferral of such cells to a suitable avian embryo.

11. The method of Claim 10, wherein said embryo is a stage X chicken embryo.

Sub 12 12. The method of Claim 1, which further comprises:
(iv) transfecting or transforming the resultant EG cells with a desired nucleic acid sequence.

13. The method of Claim 12, wherein said nucleic acid sequence encodes a therapeutic polypeptide.

Sub 14 14. An improved method of producing chimeric avians which comprises:

- (i) isolating primordial germ cells from an avian;
- (ii) maintaining such PGCs in a tissue culture medium containing at least the following growth factors;
 - (1) leukemia inhibitory factor (LIF),
 - (2) basic fibroblast growth factor (bFGF),
 - (3) stem cell factor (SCF) and
 - (4) insulin-like growth factor (IGF) for a
- 10 sufficient time to produce embryonic germ (EG) cells;
- (iii) transferring said EG cells into a recipient avian embryo; and

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(iv) selecting for ~~chimeric~~ avians which have the desired PGC phenotype.

July 6 F2 > 15. The method according to Claim 14, wherein said PGCs are derived from avian embryos of the genus *Gallinacea*.

16. The method according to Claim 15, wherein said avian embryos are turkey or chicken embryos.

17. The method according to Claim 14, wherein said EG cells are transfected or transformed with a desired nucleic acid sequence prior to transferral to a recipient avian embryo.

July 15 > 18. The method according to Claim 17, wherein said nucleic acid sequence encodes a therapeutic polypeptide.

19. The method according to Claim 18, which further includes purifying said therapeutic polypeptide from the eggs of the chimeric avians produced according to step (iv), or the systemic circulating system or body fluids or tissues.

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Line of Claim

24. The cell line of Claim 22, which is P102896.